

**Commonwealth of Kentucky  
Division for Air Quality**

**PERMIT APPLICATION SUMMARY FORM**

Completed by: Kenvirons, Inc.

Reviewed by Sreenavas Kesaraju, DAQ

GENERAL INFORMATION:

Name:	Carbide Industries, LLC
Address:	3204 Industrial Parkway, KY HWY 1523 Calvert City, KY 42029
Date application received:	June 9, 2000
SIC/Source description:	2813 Industrial Gases-Acetylene/2819 Industrial Inorganic Chemicals – Calcium Carbide
Source ID #:	21-157-00025
Source A.I. #:	2928
Activity #:	APE20040001
Permit number:	V-05-067

APPLICATION TYPE/PERMIT ACTIVITY:

<input checked="" type="checkbox"/> Initial issuance	<input type="checkbox"/> General permit
<input type="checkbox"/> Permit modification	<input type="checkbox"/> Conditional major
__Administrative	<input checked="" type="checkbox"/> Title V
__Minor	<input type="checkbox"/> Synthetic minor
__Significant	<input checked="" type="checkbox"/> Operating
<input type="checkbox"/> Permit renewal	<input type="checkbox"/> Construction/operating

COMPLIANCE SUMMARY:

<input type="checkbox"/> Source is out of compliance	<input type="checkbox"/> Compliance schedule included
<input checked="" type="checkbox"/> Compliance certification signed	

APPLICABLE REQUIREMENTS LIST:

<input type="checkbox"/> NSR	<input checked="" type="checkbox"/> NSPS	<input checked="" type="checkbox"/> SIP
<input type="checkbox"/> PSD	<input type="checkbox"/> NESHAPS	<input type="checkbox"/> Other
<input type="checkbox"/> Netted out of PSD/NSR	<input type="checkbox"/> Not major modification per 401 KAR 51:001, 1(116)(b)	

MISCELLANEOUS:

☐ Acid rain source  
☐ Source subject to 112(r)  
☐ Source applied for federally enforceable emissions cap  
☐ Source provided terms for alternative operating scenarios  
☐ Source subject to a MACT standard  
☐ Source requested case-by-case 112(g) or (j) determination  
☐ Application proposes new control technology  
☐ Certified by responsible official  
☒ Diagrams or drawings included  
☒ Confidential business information (CBI) submitted in application  
☐ Pollution Prevention Measures  
☐ Area is non-attainment (list pollutants):

EMISSIONS SUMMARY:

Pollutant	Actual (tpy)	(1) Potential (tpy)
PM/PM <sub>10</sub>	1.32	76.8
SO <sub>2</sub>	0.0014	640
NO <sub>x</sub>	0.233	315
CO	0.0466	235
VOC	0.0123	1172
LEAD	0.000001	0.0005
Total HAP > 25 tpy	NA	NA
Single HAP > 10 tpy (by CAS)	NA	NA

(1) Potential emissions are based on the process steam boilers firing on No. 2 fuel oil.

#### SOURCE PROCESS DESCRIPTION:

Carbide Industries, LLC located in Calvert City, Kentucky operates primarily an Industrial Inorganic Chemical – calcium carbide production facility. Acetylene is also produced at the facility as well as desulfurization reagents, calcium hydroxide, calcined anthracite coal, and electrode paste. The products are sold to a wide range of industries from acetylene producers, chemical manufacturers, steel foundries to aluminum producers.

For regulatory purposes, the Calvert City facility is divided into four process areas: PA-1) Furnace Department – Calcium Carbide Manufacturing; PA-2) Calcine and Paste Department; PA-3) Pack/Environmentally Safe Desulfurization (ECD)/Desulfurization Department; and PA-4) Acetylene Department. Each process area is subdivided into sub-processes: the furnace department is divided into the lime handling, coke handling and furnace charge handling systems, and furnace operations; the calcine and paste department is divided into coal calcining and paste production operations; the pack department is divided into the packing system and the ECD and desulfurization systems; the acetylene department includes acetylene process and hydrate handling processes. Carbide Industries, LLC Calvert City facility is considered a major source due to potential emissions of NO<sub>x</sub>, CO, VOC, and SO<sub>2</sub> greater than one hundred (100) tons per year each. Carbide Industries, LLC Calvert City facility has applied for the initial Title V operating permit, with the application received at the Division on June 9, 2000. The Division recognizes the application complete date of August 8, 2000, 60 days following the receipt of the permit application.

The only revision to the facilities permit conditions requested by the June 2000 application is the increase in submerged electric arc furnace power load from 29 Megawatts to 40 Megawatts. Potential emissions and permit limitations reflect this change.

#### EMISSION AND OPERATING CAPS DESCRIPTION:

None

#### OPERATIONAL FLEXIBILITY:

None